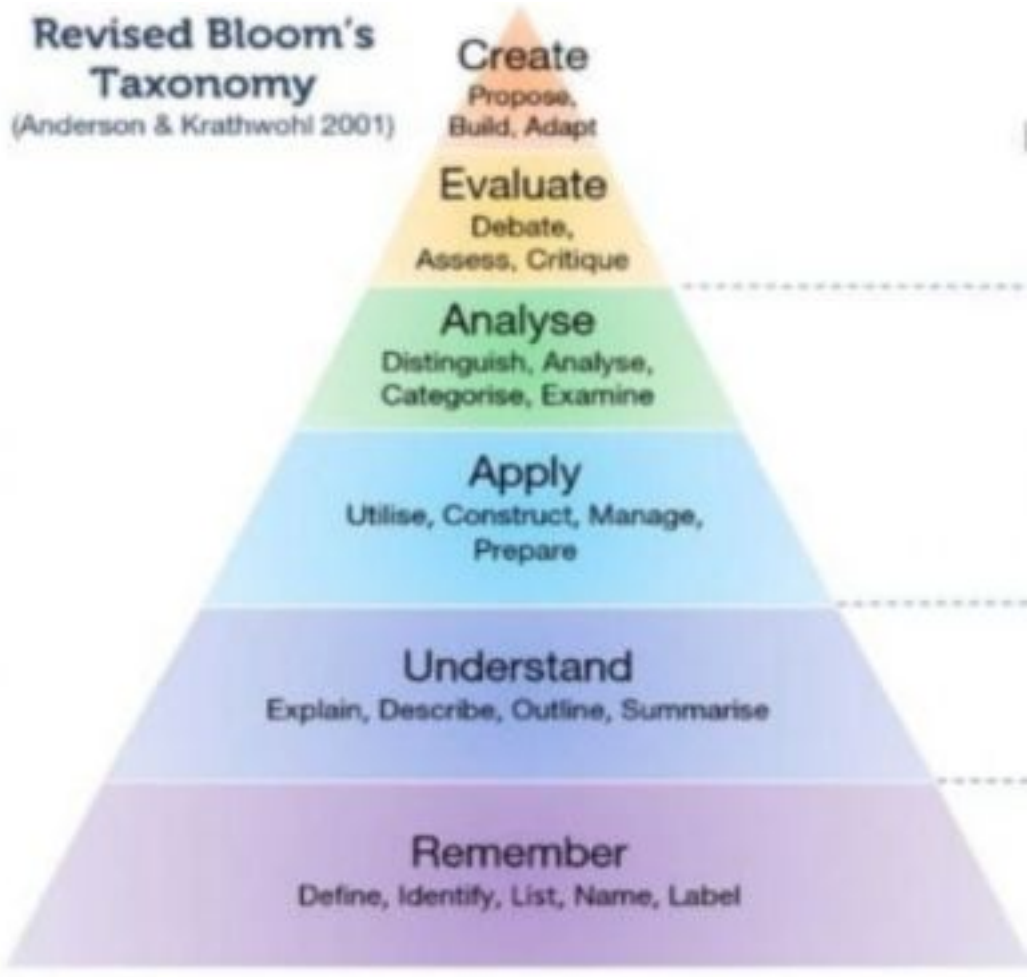
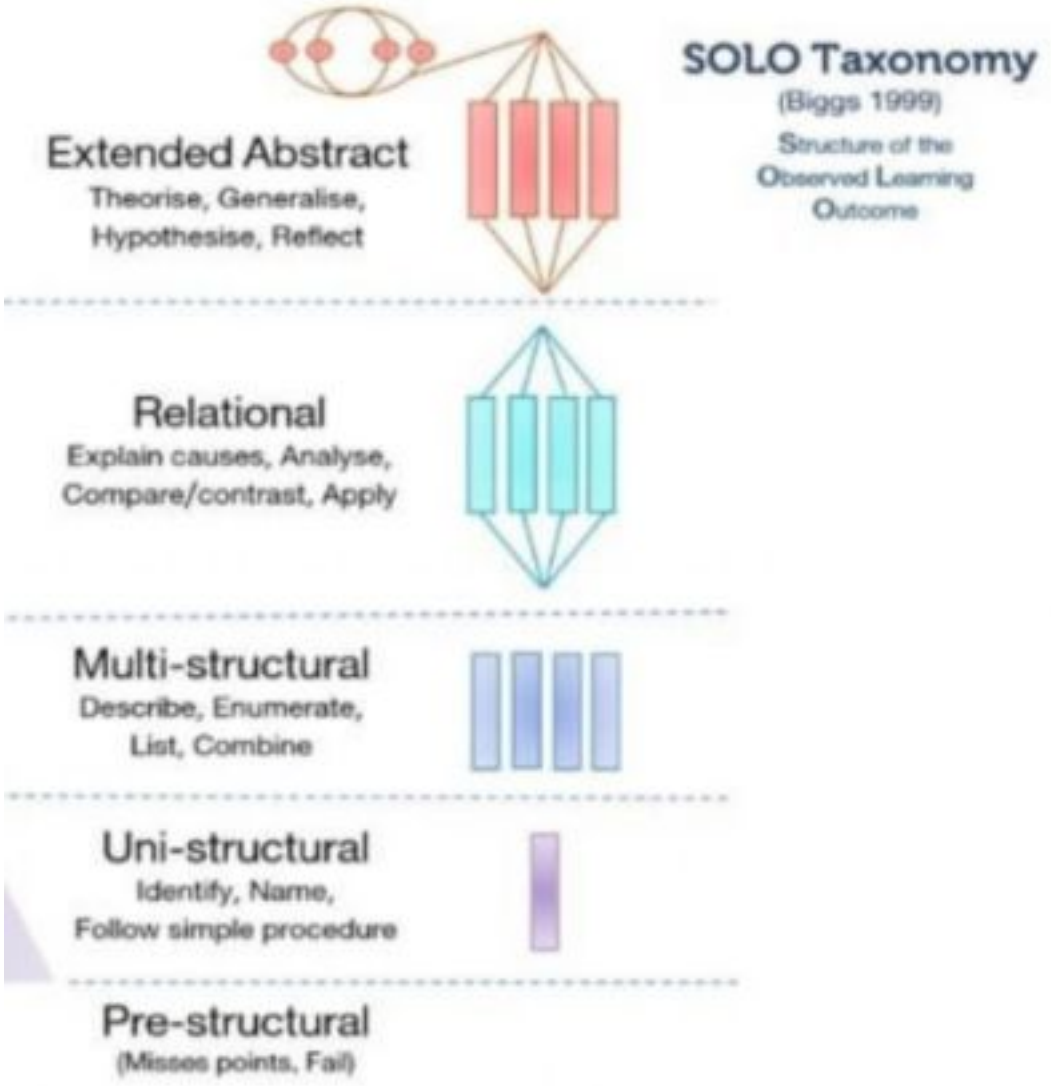
Assessment

Bloom's Taxonomy



SOLO Taxonomy



Teaching Teaching and Understanding Understanding

- https://www.youtube.com/watch?v=SfloUd3eO_M
- 3:20

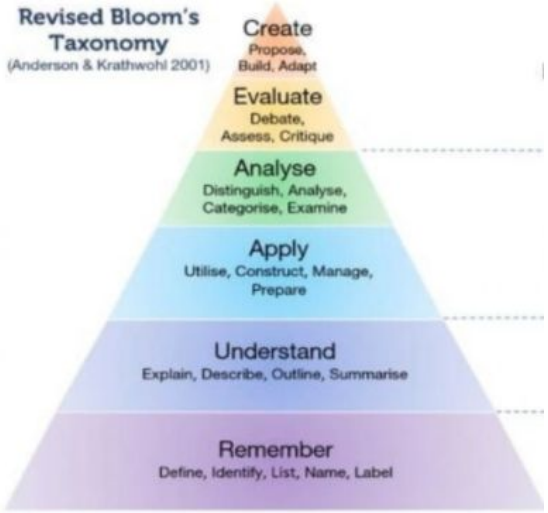
Two Traditional Approaches

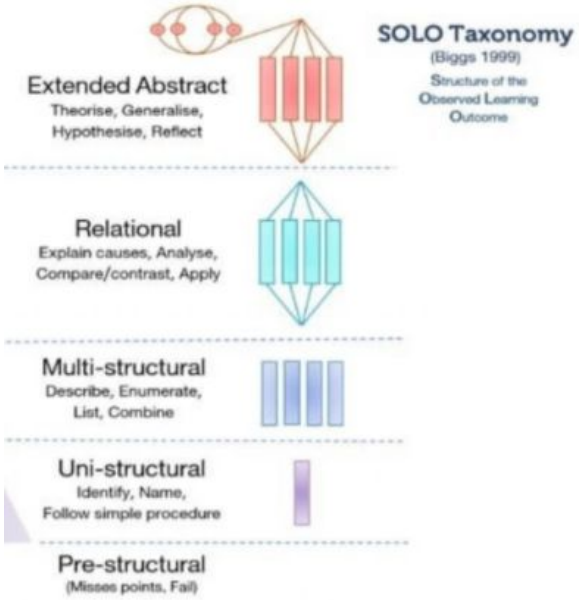
- Individual Learning Goals
- Evidence-Centered Design (ECD)

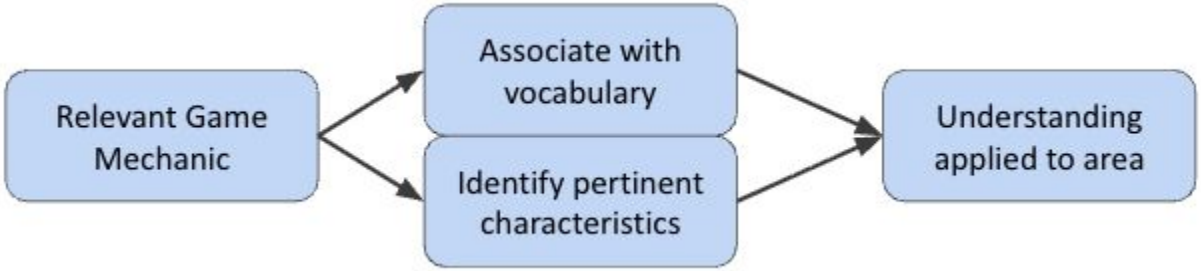
Learning Goals

- Design question that gets at each level of the taxonomy
- Analyze at what level they answer the question

Types of Learning Goals







Where do these types of learning goals fall in SOLO / Bloom's taxonomies?

Civilization-style game

Build a civilization
Like a cozy game

Gain resources:
- Collect taxes
- Grow / sell crops, products

Decisions on where to spend resources:
- Build more houses (+population, +taxes)
- Make goods (+income)
- Expand city limits (+land for house building)
- Learn new skills (+products, +population density)
- Train army units (+defense, +resources from other towns)

What different things could we teach through a *Civilization*-like game?

Economics

Diplomacy

History

Agriculture, construction, trades

Science & history of inventions

Urban planning

Geography

Civilization learning content

Geography (cities & peoples)

Timelines - dominating nearby rules over time

Technology throughout history (e.g. bronze, clay)

Wonders of the world

Strategy

Diplomacy

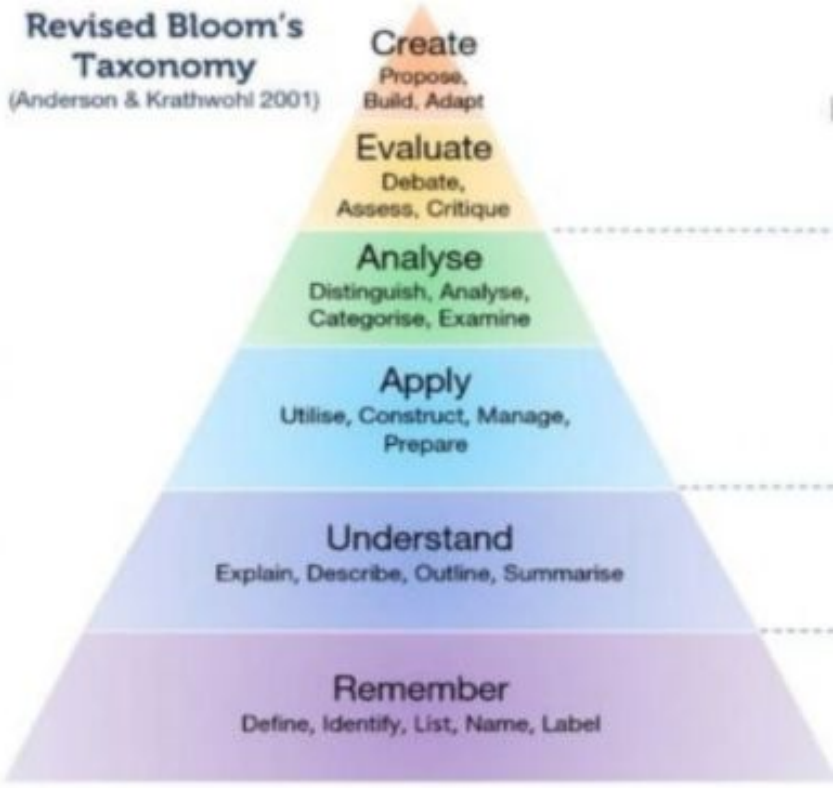
Breakout #1:
School-style Assessment design

Choose one of the learning content area

1) Design an assessment question for each level of Bloom's Taxonomy.
2) Design one broad assessment question and possible answers that would be graded according to SOLO Taxonomy

Revised Bloom's Taxonomy

(Anderson & Krathwohl 2001)



SOLO Taxonomy

(Biggs 1999)

Structure of the Observed Learning Outcome

Extended Abstract
Theorise, Generalise, Hypothesise, Reflect

Relational
Explain causes, Analyse, Compare/contrast, Apply

Multi-structural
Describe, Enumerate, List, Combine

Uni-structural
Identify, Name, Follow simple procedure

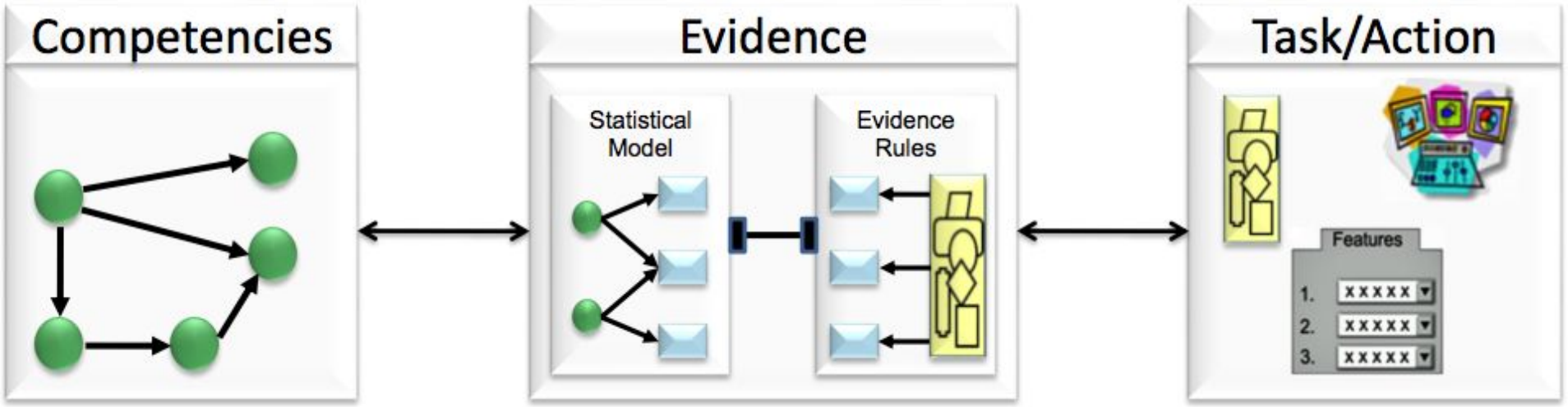
Pre-structural
(Misses points, Fail)

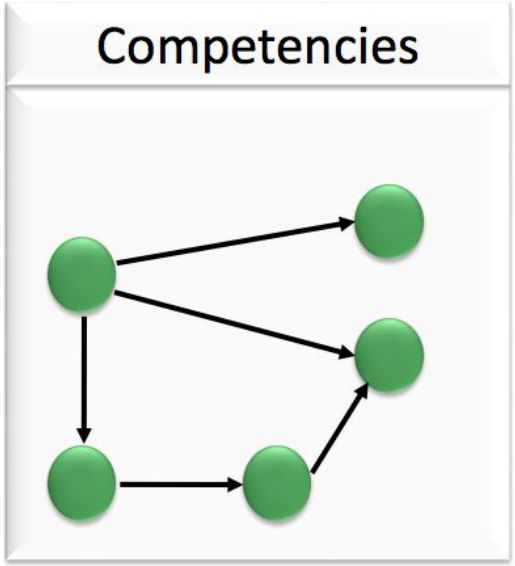
Breakout #2:
Integrating learning content

Choose one of the learning content area

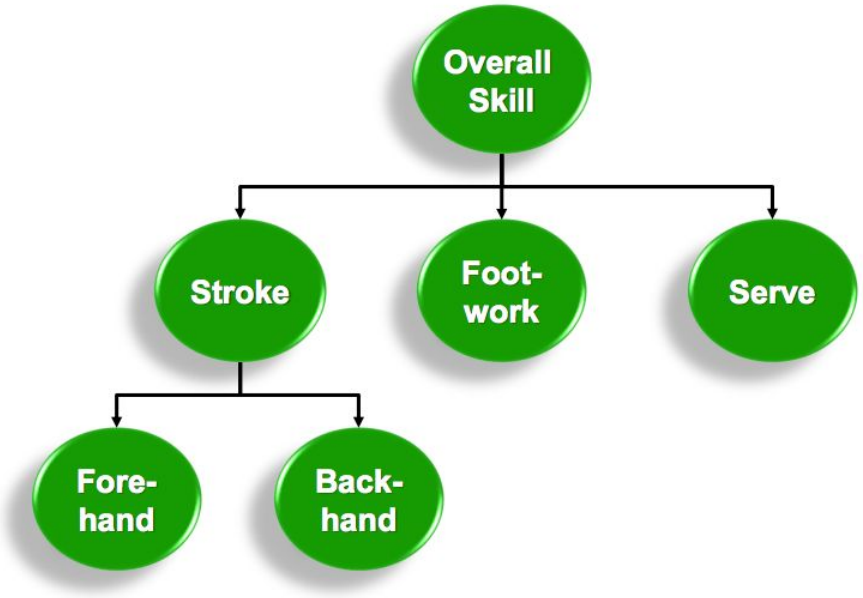
Make a list of design decisions that would help teach different aspects of that content area in the game

ECD


Competencies
Evidence
Statistical Model
Evidence Rules
Task/Action
Features
1. XXXXX
2. XXXXX
3. XXXXX



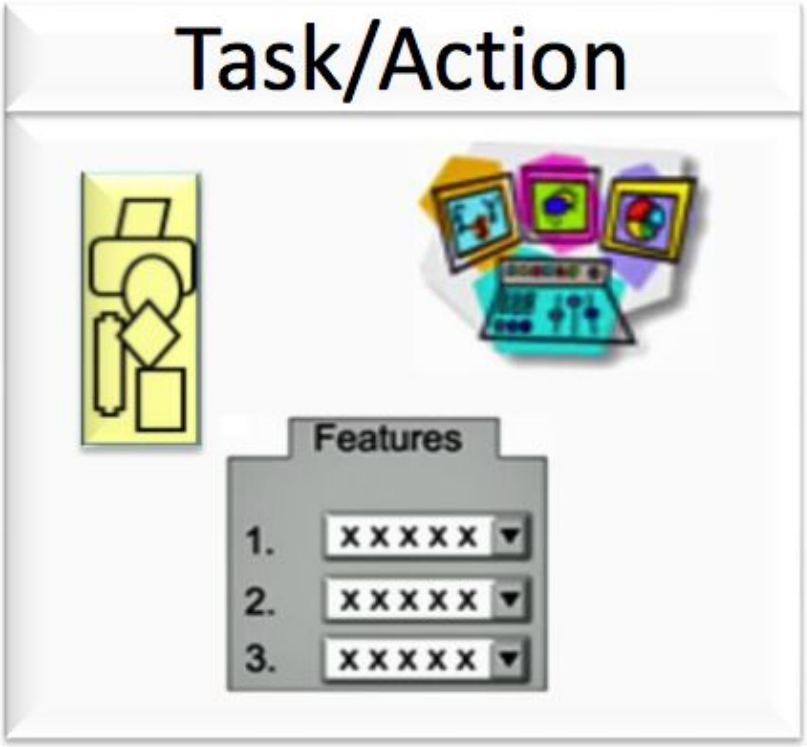
- Variables (green circles) in the CM describe knowledge, skills, and other attributes about which inferences are intended.
- Inferences can be at various grain sizes, from general (e.g. *Maya's math skills are high*) to more specific (*Jeb is having serious problems solving linear equations*).



Similar to learning trajectory! Weights also attached but not shown here.

Identifying **evidence** for a single learning goal

Indicators\Score	0	1	2
***Form* of forehand stroke**	Improper form	Proper form, but timing off	Proper form and good timing
***Control* of the ball's direction with forehand stroke**	The ball landed outside of the line.	The ball landed inside of the line, but in an easy spot for the opponent to hit.	The ball landed inside of the line, but in a very hard-to-hit spot for the opponent.
***Power* of stroke (longer, shorter, and follow through)**	The ball didn't cross the net, or the ball went too far.	The ball crossed the net, but provided a scoring opportunity for the opponent.	The ball crossed the net, but it was difficult for the opponent to keep the ball in play.



- Design tasks that allow learners to provide evidence that demonstrates competency

Breakout #3:
Integrating learning content

Choose one of the learning content area

Design in-game challenges that would assess content

1) Explicit assessment (what would questions look like, what is incentive)
2) Sneaky assessment

Breakout #4:
Your Game

Choose one learning goal from your game

1) Make an evidence grid (one row of it)
2) Describe an in-game assessment strategy for it

Indicators\Score	0	1	2
***Form* of forehand stroke**	Improper form	Proper form, but timing off	Proper form and good timing
***Control* of the ball's direction with forehand stroke**	The ball landed outside of the line.	The ball landed inside of the line, but in an easy spot for the opponent to hit.	The ball landed inside of the line, but in a very hard-to-hit spot for the opponent.
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